

IN THE CLAIMS:

1. (Currently Amended) An electrode belt for electrical impedance tomography, the electrode belt comprising:

a belt material;

16 or more electrodes connected to [[on]] said belt material, said belt material being  
5 elastic in some sections such that said belt material can be stretched from a non-stretched state to a stretched state, the electrode belt fully surrounding a test subject to be examined over the circumference of the body;

electrode feed lines, each electrode feed line having a defined length, said electrode feed lines being integrated within said belt material such that entire length of each electrode feed line  
10 extends within said belt material, each electrode feed line connecting one electrode to another electrode, each electrode feed line having a length between electrodes that is greater than length of belt material between electrodes when the belt material is in a non-stretched state; and

a feed line, said electrode feed line being connected to said feed line at one or more feed points along said belt material.

2. (Canceled)

3. (Original) An electrode belt in accordance with claim 1, wherein said electrodes are arranged at equally spaced locations from one another on the belt material.

4. (Canceled)

5. (Original) An electrode belt in accordance with claim 1, wherein said belt material and said electrode feed lines form plural belt segments with one or more of said electrodes arranged on individual belt segments.

6 -10. (Canceled)

11. (Original) An electrode belt in accordance with claim 1, wherein said feed points are arranged symmetrically in relation to one another with the belt material split into two sections of approximately equal size.

12 -15. (Canceled)

16. (Previously Presented) An electrode belt in accordance with claim 1, wherein said belt material comprises three or more tubes, which extend in parallel and are connected section by section via a tube mounting piece.

17. (Previously Presented) An electrode belt in accordance with claim 16, wherein said electrodes are arranged in the area of said tube mounting piece.

18. (Previously Presented) An electrode belt in accordance with claim 16, wherein one of said tubes is hollow and accommodates said electrode feed lines.

19. (Canceled)

20. (Previously Presented) An electrode belt in accordance with claim 16, further comprising: shaped elements provided as padding for two or more adjacent said electrodes for covering a sternal or spinal depression of a test subject wherein a gel pad located between outer tubes and a middle tube is provided as said shaped element.

21 - 24. (Canceled)

25. (Currently Amended) An electrode belt for electrical impedance tomography, the electrode belt comprising:

an electrode holder having a defined length for surrounding the body of a test subject, said electrode holder being composed of a stretch material;

16 or more electrodes, said 16 or more electrodes being located on said electrode holder, each electrode being positioned along said electrode holder at a spaced location from an adjacent electrode to define an electrode holder portion;

electrode feed lines, each electrode feed line having a defined length, said electrode feed length extending within said stretch material, said stretch material surrounding length of said

10 electrode feed line, each electrode feed line connecting one electrode and another electrode  
along said electrode holder portion to define an electrode feed line portion, said electrode feed  
line portion having a length that is greater than length of said electrode holder portion when the  
electrode holder stretch material is in a non-stretched state; and

an external feed line, said external feed line being connected to said electrode feed lines  
15 at one or more connection sites on said electrode holder.

26. (Previously Presented) An electrode belt for electrical impedance tomography, the  
electrode belt comprising:

an electrode holding belt, said electrode holding belt comprising one or more elastic  
tubes;

5 16 or more electrodes, said 16 or more electrodes being positioned on said electrode  
holding belt;

electrode feed lines extending within one or more hollow elastic tubes, said electrode  
feed lines having a length between electrodes that is greater than a length of said elastic tubes  
in a non stretched state; and

10 a primary connection line, said primary connection line being joined to said electrode  
feed lines at one or more primary connection sites on said electrode holding belt.

27. (Previously Presented) An electrode belt in accordance with claim 26, wherein said  
belt comprises three or more tubes, which extend in parallel and are connected section by

section via a tube mounting piece.

28. (Previously Presented) An electrode belt in accordance with claim 27, further comprising: shaped elements provided as padding for two or more adjacent said electrodes for covering a sternal or spinal depression of a test subject wherein a gel pad located between outer tubes and a middle tube is provided as said shaped element.

29. (Previously Presented) An electrode belt in accordance with claim 27, wherein said electrodes are arranged in the area of said tube mounting piece.

30. (Previously Presented) An electrode belt in accordance with claim 26, wherein said electrode holding belt and said electrode feed lines form plural belt segments with one or more of said electrodes arranged on individual belt segments.

31. (Previously Presented) An electrode belt in accordance with claim 26, wherein said electrodes are arranged at equally spaced locations from one another on said electrode holding belt.

32. (Previously Presented) An electrode belt in accordance with claim 26, further comprising: shaped elements provided as padding for two adjacent said electrodes for covering a sternal or spinal depression of a test subject.

33. (Previously Presented) An electrode belt in accordance with claim 26, wherein silicone is the material used for said electrode holding belt.

34. (Previously Presented) An electrode belt in accordance with claim 26, further comprising a belt closure provided between two adjacent electrodes.

35. (Previously Presented) An electrode belt in accordance with claim 30, further comprising belt closures wherein each of said belt segments is provided with one of said belt closures.

36. (Previously Presented) An electrode belt in accordance with claim 30, wherein said electrodes are arranged at equal distances from each other within said belt segments.

37. (Previously Presented) An electrode belt in accordance with claim 35, wherein said feed points for electrode feed lines are provided on each of said belt closures.

38. (Canceled)

39. (Previously Presented) An electrode belt in accordance with claim 32, wherein said shaped elements are designed as one or more of said electrodes bulging forward.

40. (Previously Presented) An electrode belt in accordance with claim 32, wherein the shaped elements are projections.

41. (Previously Presented) An electrode belt in accordance with claim 32, wherein the shaped elements comprising cavities, which can be filled with a medium and are closed with an elastic membrane.

42. (Previously Presented) An electrode belt in accordance with claim 41, wherein liquids, gels or gases are provided as said medium.

43. (Previously Presented) An electrode belt in accordance with claim 29, wherein said electrode feed lines are disposed or folded in a triangular, meandering or loop-like pattern.

44. (Previously Presented) An electrode belt in accordance with claim 26, wherein said electrode belt has a coding means for providing information relating to the belt.

45. (Previously Presented) An electrode belt in accordance with claim 44, wherein said coding means is designed as a plug type connection on a feed line, a magnetic strip, a bar code strip, an EEPROM, a transponder or a digital/analog electronic unit.

46. (Previously Presented) An electrode belt in accordance with claim 26, further comprising:

an evaluating unit; and

wireless means for wireless communication between said electrode belt and said evaluating unit.

47. (Previously Presented) An electrode belt in accordance with claim 46, wherein said wireless means is connected in one assembly unit with said electrode belt.

48. (Currently Amended) An electrode belt for electrical impedance tomography, the electrode belt comprising:

a belt material, said belt material comprising three or more tubes, which extend in parallel and are connected section by section via a tube mounting piece;

16 or more electrodes on said belt material, said belt material being elastic in some sections, the electrode belt fully surrounding a test subject to be examined over the circumference of the body;

electrode feed lines, said electrode feed lines being integrated within said belt material;

shaped elements provided as padding for two or more adjacent said electrodes for covering a sternal or spinal depression of the test subject, wherein a gel pad located between outer tubes and a middle tube is provided as said shaped element; and

a feed line, said electrode feed line being connected to said feed line at one or more feed points along said belt material.